

What is claimed is:

1. A method for detecting a format of a digital video data sequence, comprising:
  - segmenting a first field of digital video data into a first plurality of pixel groups;
  - segmenting a second field of digital video data into a second plurality of pixel groups;
  - producing a plurality of pixel group scores based on differences between corresponding pixel groups in the first plurality of pixel groups and the second plurality of pixel groups; and
  - determining a field difference metric between the first field of digital video data and the second field of digital video data based on the plurality of pixel group scores.
2. The method of claim 1, wherein the first plurality of pixel groups include a first plurality of blocks, the second plurality of pixel groups include a second plurality of blocks, and the plurality of pixel group scores includes a plurality of block scores.
3. The method of claim 1, wherein producing the plurality of pixel group scores includes measuring pixel differences between corresponding pixels in the first field of digital video data and the second field of digital video data.
4. The method of claim 1, wherein determining the field difference metric includes selecting a sub-set of the plurality of pixel group scores.
5. The method of claim 1, further comprising cropping the first field of digital video data and the second field of digital video data.

6. The method of claim 1, further comprising filtering the first field of digital video data and the second field of digital video data.
7. A method for detecting a format of a digital video data sequence, comprising:
  - producing a normalized field difference sequence based on a comparison of two fields in a sequence of data fields;
  - comparing the normalized field difference sequence with at least one test vector; and
  - determining whether the received sequence of data fields is film mode or video mode based on the comparison of the normalized field difference sequence with the at least one test vector.
8. The method of claim 7, wherein producing the normalized field difference sequence includes:
  - segmenting a first field of digital video data into a first plurality of pixel groups;
  - segmenting a second field of digital video data into a second plurality of pixel groups;
  - producing a plurality of pixel group scores based on differences between corresponding pixel groups in the first plurality of pixel groups and the second plurality of pixel groups; and
  - determining a field difference metric between the first field of digital video data and the second field of digital video data based on the plurality of pixel group scores.
9. The method of claim 8, wherein the first plurality of pixel groups include a first plurality of blocks, the second plurality of pixel groups include a second plurality of blocks, and the plurality of pixel group scores includes a plurality of block scores.

10. The method of claim 8, wherein the at least one test vector includes a plurality of film basis vectors and a plurality of video basis vectors.

11. The method of claim 10, wherein the plurality of film basis vectors have zero assigned to each film basis vector location representing a repeat field, and one assigned to each film basis vector location representing a non-repeat field, for each of five possible phases of telecine content.

12. The method of claim 8, wherein determining whether the received sequence of data fields is film or video further includes comparing the normalized field difference sequence to a plurality of film splice vectors.

13. The method of claim 12, further comprising determining a phase index based on the comparison between the normalized field difference sequence and the plurality of film splice vectors.

14. The method of claim 8, further comprising determining a phase index based on the comparison of the normalized field difference sequence with the at least one test vector.

15. The method of claim 14, further comprising:

identifying field pairs based on the determination of film mode and video mode, and further based on the determination of phase index;  
setting repeat first field flags to selected fields in the sequence of data fields based on the determination of film mode and video mode, and further based on the determination of phase index; and

setting progressive frame flags to selected fields in the sequence of data fields based on the determination of film mode and video mode, and further based on the determination of phase index.

16. A method for detecting a format of a digital video data sequence, comprising:

producing a normalized field difference sequence based on a comparison of two fields in a sequence of data fields;  
comparing the normalized field difference sequence with a plurality of film splice vectors; and

determining whether the sequence of data fields is film mode or video mode based on the comparison of the normalized field difference sequence with the plurality of film splice vectors.

17. The method of claim 16, further comprising determining a phase index based on the comparison between the normalized field difference sequence and the plurality of film splice vectors.

18. The method of claim 17, further comprising:

identifying field pairs based on the determination of film mode and video mode, and further based on the determination of phase index;  
setting repeat first field flags to selected fields in the sequence of data fields based on the determination of film mode and video mode, and further based on the determination of phase index; and

setting progressive frame flags to selected fields in the sequence of data fields based on the determination of film mode and video mode, and further based on the determination of phase index.

19. A machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

segmenting a first field of digital video data into a first plurality of blocks;  
segmenting a second field of digital video data into a second plurality of blocks;  
producing a plurality of block scores based on differences between corresponding blocks in the first plurality of blocks and the second plurality of blocks; and  
determining a field difference metric between the first field of digital video data and the second field of digital video data based on the plurality of block scores.

20. A machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

producing a normalized field difference sequence based on a comparison of two fields in a sequence of data fields;

comparing the normalized field difference sequence with at least one test vector; and

determining whether the received sequence of data fields is film mode or video mode based on the comparison of the normalized field difference sequence with the at least one test vector.

21. A machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

producing a normalized field difference sequence based on a comparison of adjacent (see comment above concerning the word “adjacent”) fields in a sequence of data fields;

comparing the normalized field difference sequence with a plurality of film splice vectors; and

determining whether the sequence of data fields is film mode or video mode based on the comparison of the normalized field difference sequence with the plurality of film splice vectors.